TITLE V

MODEL GENERAL PERMIT TEMPLATE

SERIES 7 GAS TURBINES

Template # SJV-GT-7-0

≥ 10 MMBtu/hr heat input at peak load

with water/steam injection

without selective catalytic reduction (SCR)

fired exclusively on P.U.C. quality natural gas

This template is designed to streamline the Title V permitting process for gas turbines meeting the above qualifications. Applicants for Title V permits choosing to use this template will only have to complete the enclosed template qualification form and submit it with their Title V application.

San Joaquin Valley Unified Air Pollution Control District

Title V Model General Permit Template
Series 7 Gas Turbines

Template No: SJV-GT-7-0

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San Joaquin Valley
Unified Air Pollution Control District

TTILE V GENERAL PERMIT TEMPLATE SJV-GT-7-0

ENGINEERING EVALUATION

TABLE OF CONTENTS

I. Purpose

The purpose of the proposed template is to streamline the Title V permitting process by identifying the federally applicable requirements for certain gas turbines and to establish permit conditions which will ensure compliance with such requirements. These conditions will be incorporated into the Title V permit of any facility choosing to make use of the template.

II. Template Applicability

The template applies to any stationary gas turbine which:

Generates electricity and heat energy through the combustion of natural gas that contains no more than 0.017% sulfur by weight, and

Is a member of the class of gas turbines with heat input greater than 10 MMBtu/hr, and is operated 877 hours per year or more, and

Is not a General Electric Frame 7 with Quiet Combustor, and

NOx emissions are controlled by water or steam injection (not Selective Catalytic Reduction).

The applicability of this template can best be established by answering the questions on the Template Qualification Form attached as Appendix F.

III. Applicable Requirements

Units may be subject to "federally enforceable" requirements as well as requirements that are enforceable by the "District-only". Federally enforceable requirements will be enforceable by the EPA and the public through Title V permit conditions identified as federally enforceable. District-only requirements represent local or state regulations for which the EPA has no direct enforcement authority. The final Title V permits issued by the District will contain both federally enforceable and District-only requirements.

District-only requirements are not addressed in this template except for those used in streamlining of multiple requirements (see discussion in section IV). District-only requirements used in streamlining of multiple requirements will become federally enforceable. Table 1, Applicable Requirements, does not necessarily include all federally enforceable requirements that apply to gas turbines qualifying to use this template, and it is the source's responsibility to determine any and all applicable requirements to which the source is subject. Generally, requirements not addressed by this template are those that require a source-specific analysis, or are covered by other templates.

Table 1. Applicable Requirements

Rule Category	Rule/Regulation	Citation	Description
A	County Rule	108.1[1]	Source Sampling
A	County Rule	110[2]	Source Sampling
A	County Rule	108[3]	Source Sampling
A	SJVUAPCD Reg. IV	4201 Section 3.1	Particulate Matter Concentration
A	County Rule	404[2]	Sulfur Compounds
A	County Rule	406[4]	Sulfur Compounds
A	County Rule	407[5]	Sulfur Compounds
A	NSPS Subpart A	40 CFR §§ 60.7(b), (c), (d), (e) and (f), 60.8, 60.11 and 60.13	General Provisions - Excess Emission Reports, Conducting Performance Tests, Continuous Emission Monitor Requirements
A	NSPS Subpart GG	40 CFR §§ 60.332 through 60.335(e)	Standards for Performance of Stationary Gas Turbines
A	SJVUAPCD Reg. II	2520, 9.4.2 and 9.5.2	Periodic Monitoring, Recordkeeping
B	SJVUAPCD Reg. II	2201	New Source Review Rule
B	SJVUAPCD Reg. II	2520	Federally Mandated Operating Permits
B	SJVUAPCD Reg. IV	4101	Visible Emissions
C	FCAA Title IV	40 CFR §§72.6 (b)	Acid Rain Provisions
D	SJVUAPCD Reg. I	1081	Source Sampling
D	SJVUAPCD Reg. IV	4703 except Section 5.2	Stationary Gas Turbines

Category “A” rules contain requirements that are directly applicable to the qualifying units; compliance with these applicable requirements will be demonstrated in this engineering evaluation and assured in the template through permit conditions. In section IV, Compliance, the federally-enforceable requirements from category “A” rules are listed with a discussion of how compliance with these requirements is achieved.

Category “B” rules contain federally enforceable requirements that were not addressed in this template. These may not be all of the federally enforceable requirements for this unit. Requirements from these rules must be addressed by the applicant outside of this template within the Title V application Compliance Plan form (TVFORM-004). Category “B” listing is included in this table as an informational item to assist applicants in this effort.

[1] Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus
[2] Madera
[3] Kings
[4] Fresno
[5] Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus

Category "C" rules contain requirements which have been determined not applicable to qualifying units. A permit shield is proposed for the category "C" rules. An explanation of the determination of non-applicability of Category "C" rules is included in this evaluation.

Category "D" rules are District rules which are used to show compliance with federally enforceable requirements, and therefore will become federally enforceable through the use of this template.

IV. Compliance

This section contains a discussion of how compliance is assured with each requirement addressed in this template. Some requirements have been "streamlined", according to the procedures in EPA's White Paper #2 for Improved Implementation of the Part 70 Operating Permits Program (March 5, 1996).

District Rule 1081

District Rule 1081 has been submitted to the EPA to replace each of the county rules in the SIP: Rule 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern and Stanislaus), and 110 (Madera). Appendix C lists all of the applicable requirements of District Rule 1081 and shows which are included in the rule from each county. This table shows that District Rule 1081 is more stringent than each of these county rules. A permit shield for each of these county rules is given in template permit condition #17.

Sections 3.0, 4.0, 5.0, 6.0, and 7.0 set forth requirements for sampling facilities, collection of samples, test methods, test procedures, and administrative requirements, respectively. These performance testing procedures shall be required by permit condition #4.

DISTRICT RULE 4201

Section 3.1 requires emissions to be at or below 0.1 grains of particulate matter per dry standard cubic foot of exhaust gas. Compliance with the Particulate Matter (PM) emission limit of 0.1 gr/dscf is expected because the turbine is fired on PUC-quality (low sulfur) natural gas. Results from source tests of natural gas turbines in the San Joaquin Valley (see Appendix E), indicate emission rates of approximately 0.001 gr/dscf of PM.

Permit conditions will be added to require firing on PUC-quality natural gas exclusively, and to limit the maximum particulate emissions to 0.1 gr/dscf. (see template conditions #1 and #2). A permit shield is granted for Rule 4201, Sect. 3.1 in template permit condition #16.

Rules 402 (Madera) and 404 (in all seven remaining counties in the San Joaquin Valley) are replaced by Unified District Rule 4201. The above analysis shows compliance with all these rules, regardless of which are SIP approved at the time of permit issuance.

By using this template the applicant is requesting a permit shield from the requirements of Rules 402 (Madera) and 404 (in all seven remaining counties in the San Joaquin Valley). See permit shield condition #17.

40 CFR § 60.333(a), (b) and County Rule 404 (Madera), 406 (Fresno) and 407 (all six remaining counties in the San Joaquin Valley)

These requirements each contain limits on emissions of sulfur oxides (SO_x). The following analysis shows that the proposed requirement to burn PUC-quality natural gas is more stringent than each county's rule and/or 40 CFR Subpart 60. Streamlining procedures, as documented in the following steps, are utilized to substitute the proposed set of requirements for the otherwise applicable requirements.

Step 1. Side-by-side Comparison of Applicable Requirements:

(SO_x)			
CITATION:	County Rule	Subpart GG	Proposed Requirements
WORK PRACTICE STDS.	NONE	Do not burn fuel which contains sulfur in excess of 0.8% by weight	Use PUC quality natural gas with a sulfur content of ≤ 0.017% by weight
EMISSION LIMIT	3.0 (2000 ppm), based on 15 minute averaging	60.333(a) (150 ppm) based on instantaneous averaging	
MONITORING 1) PUC-regulated natural gas 2) non PUC-regulated natural gas	none	60.334(b) & 335(e) - daily fuel analysis for sulfur content, unless other frequency approved by the Administrator	1) If PUC-regulated, natural gas is monitored by PUC. 2) If non PUC-regulated, weekly fuel analysis for sulfur content. If (8) consecutive tests show compliance, then quarterly testing.
RECORDKEEPING 1) PUC-regulated natural gas 2) non PUC-regulated natural gas	none	none	1) PUC regulated fuel, maintain copies of fuel invoices. 2) Non PUC-regulated, maintain copies of quarterly SOx testing results.
REPORTING	none	60.334(c)(2)	none
TEST METHODS	EPA 8	EPA 20	ASTM Method D-1072-80, D3031-81, D4084-82, or D3246-81

Step 2. Select most stringent emission limit or performance standard:

The SOx emission limit of 150 ppmv is the maximum allowed by NSPS Subpart GG, and is clearly more stringent than the 2000 ppmv limit imposed by each county's rule. Because use of this template is limited to units that combust natural gas with a sulfur content ≤ 0.017% S by weight (PUC-quality, see Appendix D), compliance is assured with the 60.333(a) emission limit of 150 ppmv SO_2 (dry std. conditions at 15% O_2) 60.333(b) fuel sulfur limit of 0.8% by weight, and each county's rule

SOx emission rate limit of 2000 ppmv. Therefore, as demonstrated below, the proposed requirements under this template assure compliance with all otherwise applicable requirements.

Compliance with SOx Emission Concentration Limit - 60.333(a):

The combustion equation is (neglecting NO_X and SOx relative to O_2 in the exhaust):

$$CH_4 + (2+X)O_2 + (2+X)3.78N_2 + YS >> CO_2 + 2\ H_20 + XO_2 + Y\ S0_2 + (2+X)3.78N_2$$

where Y = moles of sulfur in the fuel
X = moles of excess air

solving an expression for the fraction of O_2 in the exhaust by volume gives:

$$\frac{X}{3+X+(2+X)3.78} = 0.15 \Rightarrow X = 5.597$$

where 3 = combined total moles of CO_2 and H_2O in the exhaust
0.15 = fraction of O_2 in the exhaust by volume

solving for Y in an expression for the fraction of SO_2 in the dry exhaust by volume gives:

$$\frac{Y}{1+5.597+28.717} = 0.00015 \Rightarrow Y = 0.00530$$

where 1 = moles of CO_2 in the exhaust
Y = mole fraction of S per mole of CH_4 combusted.
28.717 = moles of N_2 in the exhaust
0.00015 = 150 ppmv of SOx emission limit

Use Y to calculate the weight fraction of S in 1 mole of CH_4:

$$\frac{(0.0053)(32.06)}{16.04+(0.0053)(32.06)} = 0.0105 \Rightarrow 1.05\%$$ S by weight in the fuel

where 32.06 = molecular weight of sulfur (S)
16.04 = molecular weight of CH_4
0.0105 = fraction of S by weight in the fuel

The preceding calculations show that a fuel sulfur content of 1.05% by weight yields 150 ppmv SOx. Because the fuel is the only source of sulfur, the weight percent of sulfur in the fuel is proportional to the exhaust SO_2 concentration; therefore the exhaust SO_2 concentration associated with combustion of fuel with 0.017% sulfur is 2.4 ppmvd.

Compliance with 150 ppmv SOx at 15% excess O_2 and dry standard conditions and 2000 ppmv is assured because all units covered by this template have a fuel sulfur concentration $\leq$ 0.017%.

Compliance with Sulfur Fuel Content Limit - 60.333(b):

Natural gas which meets the quality standards of the Public Utilities Commission (PUC) contains less than 0.017% sulfur by weight which assures compliance with the 0.8% sulfur by weight limit of New Source Performance Standard, Subpart GG - 40 CFR Subpart 60.333. All natural gas that is regulated enters the PUC pipeline for distribution to consumers and is tested to assure that its composition conforms to this standard. Natural gas that is not regulated by the PUC must be monitored for sulfur in natural gas as specified in section 40 CFR 60.334(b) and tested as required in 60.335(e).

By General Order 58-A of the PUC (see Appendix D), natural gas which is supplied by any gas utility must contain less than or equal to 5 grains of total sulfur per 100 standard cubic feet. All natural gas that enters the PUC pipeline for distribution to consumers is tested to assure that its composition conforms to these standards. This standard can be converted to an expression of weight percent of sulfur in the natural gas (ng):

$$\%S\ (\text{lb S/lb ng}) = \frac{5\text{ gr}}{100\text{ scf}} \times \frac{1\text{ lb}}{7000\text{ gr}} \times \frac{24.45\text{L}}{\text{mol ng}} \times \frac{1\text{ mol ng}}{16\text{ g}} \times \frac{454\text{ g}}{1\text{ lb}} \times \frac{0.035\text{ scf}}{1\text{ L}} \times 100$$

= 0.017% sulfur

0.017% sulfur by weight assures compliance with the 0.8% sulfur by weight limit of New Source Performance Standard, Subpart GG - 40 CFR Subpart 60.333(b).

Step 3. Conditions ensuring compliance with applicable requirements.

See condition #1 which requires turbines to use PUC-quality natural gas with a sulfur content less than or equal to 0.017% by weight. In addition, conditions #5, #6 require testing, #12 requires monitoring, and #23 requires reporting to assure compliance with the streamlined sulfur oxide emission limit.

Step 4. Certify compliance

By using this template as part of the title V application, the applicant is certifying compliance with all conditions required as part of the template.

Step 5. Compliance schedule for new monitoring requirements

Not applicable.

Step 6. Request for permit shield

By using this template the applicant is requesting a permit shield from the requirements of Rule 406 (Fresno), Rule 407 (Kern), Rule 404 (Madera), Rule 407 (Tulare), Rule 407 (Kings), Rule 407(Stanislaus), Rule 407 (Merced), Rule 407 (San Joaquin)and subpart GG of 40 CFR that pertains to SOx emissions. See template condition #16.

40 CFR § 60.332(a), (b) - Subpart GG

This requirement limits emissions of nitrogen oxides. Emissions shall not exceed a NOx emission rate of 75 ppmvd or 150 ppmv, depending on the unit size (at 15% O_2 with the ISO correction factor). The following analysis shows that the proposed requirement to burn PUC-quality natural gas is more stringent than 40 CFR subpart GG. Streamlining procedures, as documented in the following steps are utilized to substitute the proposed set of requirements for the otherwise applicable requirements.

Step 1. Side-by-side Comparison of Applicable Requirements:

(NOx)		
CITATION:	Subpart GG	Proposed Requirements
WORK PRACTICE STDS.	NONE	Use PUC quality natural gas.
EMISSION LIMIT 1) < 10 MW 2) ≥ 10 MW	60.332(a) (75 ppm)	1) If < 10 MW then 42 ppm @ 15% O_2 2) If ≥10 MW then (15 x EFF/25) ppm @ 15% O_2 where EFF (efficiency) is the higher of EFF1 or EFF2 below: $EFF1 = \frac{3412\ Btu / kW - hr}{Actual\ Heat\ Rate\ at\ HHV\ (Btu / kW - hr)} X\ 100\%$ $EFF2 = EFFmfr\ x \left(\frac{LHV}{HHV} \right)$ where actual heat rate is a ratio of the heat input to power output taking into account the manufacturer's listed turbine efficiency, HHV is the higher heating value of the fuel, LHV is the lower heating value of the fuel, and EFFmfr is the manufacturer's continuous rated percent efficiency of the gas turbine with air pollution control equipment at LHV. An EFF <25 shall be assigned a value of 25. [4703, 5.1]
MONITORING	The water-to-fuel ratio shall be continuously monitored, (60.334(a)) Conduct performance tests within 180 days of initial startup (60.8(a)) Performance testing procedures of 40 CFR 60.8 Monitor nitrogen content of the fuel. (60.334(b))	Operator shall install, operate and maintain in calibration a predictive emissions monitoring system which continuously measures and records the water-to-fuel ratio, elapsed time of turbine operation and correlates the water-to-fuel ratio with the NOx concentration in the exhaust. [4703, 6.2.1]
RECORDKEEPING	None	Operator shall maintain a stationary gas turbine system operating log that includes, on a daily basis , the actual local time start-up and stop time, length and reason for reduced load periods, total hours of operation, type and quantity of fuel used. [40 CFR 60.332 (a), (b)] Maintain all records for five years. [2520, 9.5.2]
REPORTING	Report any one hour period when the water-to-fuel ratio falls below that determined to demonstrate compliance. (60.334(c)	Report any one hour period when the water-to-fuel ratio falls below that determined to demonstrate compliance.
WORK PRACTICE	The water-to-fuel ratio to achieve compliance with the NOx limit shall be determined at different loads. (60.335(c)(2))	The water-to-fuel ratio to achieve compliance with the NOx limit shall be determined at different loads.
TESTING	Determine the nitrogen content of the fuel being fired. Use EPA Method 20 to determine NOx concentrations. 60.335(a),(b))	Test Annually for nitrogen oxides (NOx) concentrations shall be determined using EPA Method 20 or 7E and oxygen (O_2) using Method 3, 3A, or 20. [4703, 6.3, 6.4] Rule 1081 (additional source test requirements)

Step 2. Select most stringent emission limit or performance standard:

The proposed template requirement to use PUC-quality natural gas coupled with the proposed NOx emission limit of 42 ppm for turbines with a rating of less than (10) MW, and (15 X EFF/25) for

turbines with a rating of (10) MW or larger, are clearly more stringent than the Subpart GG emissions limit of 75 ppmv as discussed below. According to 40 CFR Part 60.332(a), (b), the NO_X emissions must not exceed 75 or 150 ppmvd, corrected to standard ISO pressure, temperature and humidity using the ISO correction factor. The ISO correction factor may increase the NO_X emission concentration from the measured value. The template requires NO_X emissions to be below (15 x EFF/25) ppmvd without ISO correction. Even with ISO correction the proposed NOx requirement is more stringent than subpart GG.

The ISO Correction Factor

CFR §60.335(c)(1) requires the following corrections:

$$NO_X = (NO_{XO}) \times \left(\frac{Pr}{Po}\right)^{0.5} \times e^{19(Ho-0.00633)} \times \left(\frac{288° K}{T_a}\right)^{1.53}$$

where:

- NO_X is the NO_X emission rate at 15% O_2 and ISO standard conditions, ppmvd
- NO_{X0} is observed NO_X concentration, ppmvd.
- Pr is reference combustor inlet absolute pressure.
- Po is observed combustor inlet absolute pressure.
- Ho is observed humidity of ambient air, g H_2O per g air
- e is transcendental constant, 2.719.
- T_a is ambient temperature, °K

The table below shows the ISO correction factor at various relative humidities throughout the ambient temperature range between 10 degrees and 130 degrees Fahrenheit.

Relative Humidity (%)	ISO Correction Factor(%)	
	Minimum	Maximum
0	82.74	121.67
10	82.22	**129.08**
20	81.71	129.07
30	81.20	129.06
40	80.68	129.05
50	80.17	129.04
60	79.65	129.03
70	79.14	129.02
80	78.63	129.01
90	78.11	129.00
100	77.60	128.99

Over the range of possible temperatures, pressures, and relative humidities in the San Joaquin Valley, the maximum ISO correction factor is 1.291. Assuming a maximum possible turbine efficiency of 45%, the maximum emission level allowed for a turbine with a rating of (10) MW or greater by the template, (15 x EFF/25) ppmvd, when corrected with the maximum ISO correction factor, is 34.9 ppmvd. The maximum emission level for a turbine with a rating of less than (10) MW is 42 ppmvd. Both of these values are less than the 75 or 150 ppmvd NOx allowed by Subpart GG. The proposed requirements for NOx are the same as the requirements of SJVUAPCD Rule 4703, sections 5.0, 5.1, 6.2.1, 6.2.2, 6.2.4, 6.3, and 6.4. A permit shield is granted for these requirements in template permit conditions #17 and #18.

Step 3. Conditions ensuring compliance with applicable requirements.
The units qualifying to use the template shall be required by permit condition to comply with the streamlined NOx emissions limit excluding periods of thermal destabilization or reduced load periods and associated monitoring, recordkeeping, reporting and testing. Thermal destabilization is defined in District Rule 4703 as the start up or shut down time necessary to bring the heat recovery steam generator to the proper temperature, not to exceed two hours. Reduced load period is defined in District Rule 4703 as the time during which a gas turbine is operated at less than rated capacity in order to change the position of the exhaust gas diverter gate, not to exceed one hour. See template permit conditions #3 (emission limit); #7-#11 (testing requirements); #13 and #14 (recordkeeping); #19, #21 and #22 (monitoring); and #20, #24 and #25 (reporting).

Step 4. Certify compliance
By using this template as part of the Title V application, the applicant is certifying compliance with all conditions required as part of the template.

Step 5. Compliance schedule for new monitoring requirements
Not applicable.

Step 6. Request for permit shield
By using this template the applicant is requesting permit shield from the requirements of Subpart GG of 40 CFR that pertain to NOx emissions. See permit shield condition #16.

<u>District Rule 2520, 9.5.2</u>
Section 9.5.2 requires all records be maintained for at least five years. Template permit condition #13 requires that all records be maintained for at least five years.

V. Permit Shield

A permit shield legally protects a facility from enforcement of the shielded regulations when a source is in compliance with the terms and conditions of the Title V permit. Compliance with the terms and conditions of the Title V permit is considered compliance with all applicable requirements upon which those conditions are based, including those that have been subsumed. A permit shield is requested in template permit conditions #15-18.

A permit shield will also be granted for 40 CFR §72.6 because facilities qualifying to use this template are not acid rain sources. Acid rain sources do not include such things as 1) A simple combustion turbine that commenced operation before November 15, 1990, 2) Any unit that, during 1985, did not serve a generator that produced electricity for sale and that did not, as of November 15, 1990, and does not currently, serve a generator that produces electricity for sale, 3) A cogeneration facility which for a unit that commenced construction prior to November 15, 1990, was constructed for the purpose of supplying equal to or less than one-third its potential electrical output capacity or equal to or less than 219,000 Mwe-hrs actual electric output on an annual basis to any utility power distribution system for sale. Through careful review of permitted units throughout the District, it was determined as of January 30, 1996 no gas turbines in the District are subject to Title IV of the CAA. Therefore this date was used as part of the template qualification form to assure that no gas turbines that are part of a Title IV source will use this template as part of a Title V permit application. (Template permit condition #15)

VI. Permit Conditions

These permit conditions will be incorporated into the Title V permit of any facility choosing to make use of the template.

1. Units shall be fired exclusively on PUC-quality natural gas which has a sulfur content of less than or equal to 0.017% by weight. [40 CFR 60.333(a) & (b);60.332(a); Rule 404 (Madera), 406 (Fresno) and 407 (6 remaining counties in the San Joaquin Valley)]

2. Operator shall not discharge into the atmosphere combustion contaminants (PM) exceeding in concentration at the point of discharge, 0.1 gr/dscf . [District Rule 4201; Rule 402 (Madera) and 404 (all 7 remaining counties in the San Joaquin Valley)]

3. Operator shall not exceed a NOx emission rate of :

A. If Rating < 10 MW,

42 ppmvd @ 15% O_2, excluding thermal stabilization and reduced load periods.

B. If Rating $\geq$ 10 MW,

(15 X EFF/25) ppmvd @ 15% O_2, under load conditions, excluding thermal stabilization and reduced load periods, where EFF (efficiency) is the higher of EFF1 or EFF2 below:

$$EFF_1 = \frac{3412 \text{ Btu / kW - hr}}{\text{Actual Heat Rate at HHV (Btu / kW - hr)}} \text{ X } 100\%$$

$$EFF_2 = EFF_{mfr} \text{ x } \left(\frac{LHV}{HHV} \right)$$

where actual heat rate is a ratio of the heat input to power output taking into account the manufacturer's listed turbine efficiency, HHV is the higher heating value of the fuel, LHV is the lower heating value of the fuel, and EFF_{mfr} is the manufacturer's continuous rated percent efficiency of the gas turbine with air pollution equipment at LHV.
An EFF that is less than 25 shall be assigned a value of 25. [40 CFR 60.332(a)(1) & 60.332(a)(2) and District Rule 4703, 5.1.1]

4. Operator shall be required to conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081; Rule 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), Rule 110 (Madera), and Rule 108 (Kings)]

5. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072-80, D 3031-81, D 4084-82 or D 3246-81. [40 CFR 60.335(d)]

6. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [40 CFR 60.334(b)(2)]

7. HHV and LHV of the fuel shall be determined using ASTM D3588-91, ASTM 1826-88, or ASTM 1945-81. [40 CFR 60.335(b) and District Rule 4703, 6.4.5]

8. Nitrogen oxides (NO_x) concentrations shall be determined using EPA Method 7E or 20, and oxygen (O_2) concentrations shall be determined using EPA Method 3, 3A, or 20. [40 CFR 60.335(b) and District Rule 4703, 6.4]

9. The operator shall provide source test information annually regarding the exhaust gas NOx concentration corrected to 15% O_2 (dry). [40 CFR 60.332(a), (b) and District Rule 4703, 5.1]

10. If the unit has a rating greater than or equal to 10.0 MW, operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703, 5.1.1. [40 CFR 60.332(a),(b) and District Rule 4703, 5.1.1]

11. Any gas turbine with an intermittently operated auxiliary burner shall demonstrate compliance with the auxiliary burner on and off. [40 CFR 60.335(b) and District Rule 4703, 6.3.2]

12. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.4.2]

13. The operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2]

14. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis, the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(a),(b) and District Rule 4703, 6.2.4]

15. The requirements of 40 CFR 72.6 (b) do not apply to this source because only non-Title IV sources can qualify to use the applicable template. A permit shield is granted from this requirement. [District Rule 2520, 13.2]

16. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: SJVUAPCD Rule 1081, 4201, 3.1; Rules 406 (Fresno), 407 (Kings, San Joaquin, Stanislaus, Tulare, Merced, and Kern), and 404 (Madera); 40 CFR 60.332(c), (d); 60.334 (b), and (c)(2); 60.335(d). A permit shield is granted from these requirements. [District Rule 2520, 13.2]

17. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: SJVUAPCD Rule 4703, 6.2.2; Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern and Stanislaus), and 110 (Madera); Rules 402 (Madera) and 404 (Fresno, Kern, Kings, San Joaquin, Merced, Stanislaus, Tulare); 40 CFR 60.332 (a) and (b); 60.333(a) and (b); 60.334 (a), (b), and (c)(1); 60.335 (a), (b), (c), and (e). A permit shield is granted from these requirements. [District Rule 2520, 13.2]

18. Compliance with the permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: SJVUAPCD Rule 4703, sections 5.0, 5.1.1, 6.2.1, 6.2.4, 6.3, 6.4.1, 6.4.3, 6.4.5, 6.4.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2]

19. Permittee shall install, operate and maintain in calibration a continuous monitoring system which continuously measures and records the water-to-fuel ratio and which correlates the water-to-fuel ratio with the NOx concentration in the exhaust by using the method described in 40 CFR 60.335(c). [40 CFR 60.334]

20. Permittee shall submit to the APCO the information correlating the control system operating parameters to the associated measured NO_x output. [District Rule 4703, 6.2.3]

21. Permittee shall install, operate and maintain in calibration a system which continuously measures and records elapsed time of turbine operation. [District Rule 4703, 6.2.1]

22. The continuous emissions monitoring system shall meet the performance requirements as specified in 40 CFR Part 60 Appendix B, Spec.2. [40 CFR 60.334 and District Rule 4703, 6.2.1]

23. Operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(c)(2)]

24. Permittee shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form to the APCO semiannually, except when more frequent reporting is specifically required by an applicable

subpart. All reports shall be postmarked by the 30th day of each calendar half (or quarter, as appropriate). [40 CFR 60.7(c)]

25. Any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance shall be reported to the APCO. Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions, turbine gas load and nitrogen content of the fuel during the period of excess emissions. [40 CFR 60.334(c)]

APPENDIX A

EPA COMMENTS / DISTRICT RESPONSE

EPA COMMENTS / DISTRICT RESPONSE

The EPA's comments regarding this template are contained in EPA's 8/21/96 letter. A copy of this letter is available at the District.

General Comments

EPA COMMENT

1. In the future, for all model general permit templates, the public notice should clarify that this will be the public's only opportunity to comment on the specific permit conditions of the template.

DISTRICT RESPONSE

The suggested clarification will be incorporated into future public notices for general permit templates.

EPA COMMENT

2. Each template permit condition should reference all underlying requirements.

DISTRICT RESPONSE

In the final general permit template #SJV-GT-1-0 each condition will be followed by a citation of the requirement(s), including any that have been subsumed, upon which the condition is based.

EPA COMMENT

3. All permits must include a condition requiring that reports of any required monitoring be submitted at least every six months (40 CFR 70.6(a)(iii)(A)).

DISTRICT RESPONSE

The general requirement for the submittal of reports of any required monitoring (40 CFR 70.6(a)(3)(iii)(A) and SJVUAPCD Rule 2520, 9.6.1) is included in a facility-wide template or will be addressed outside of this template by each Title V source.

Comments on Specific Template Issues

III. Applicable Requirements

EPA COMMENT

1. The District should add a caution to the first paragraph: "Some permit terms and conditions in this template come from a rule that is not currently federally enforceable. By requesting the use of this template the source is requesting that these District-only requirements be made federally enforceable."

DISTRICT RESPONSE

The clarification that certain District-only requirements will be made federally enforceable by the use of this template, and that these rules are designated 'Category D', will be incorporated into the template.

EPA COMMENT

2. The District should add a statement to the second paragraph of this section to clarify that Table 1 does not necessarily include all the requirements that may apply to a source that qualifies to use this template.

DISTRICT RESPONSE

This clarification will be incorporated into the template. The second paragraph will be amended to state that Table I, Applicable Requirements, does not necessarily include all federally enforceable requirements that apply to gas turbines qualifying to use this template, and that it is the source's responsibility to determine any and all applicable requirements to which the source is subject.

EPA COMMENT

3. The citations under Subpart A of NSPS should also include 40 CFR 60.7(b), (d), (e), and (f), and 60.11.

DISTRICT RESPONSE

Table I, Applicable Requirements, will be amended to incorporate the following 'Category A' rules:
40 CFR 60.7(b), (d), (e), and (f)
40 CFR 60.11

EPA COMMENT

4. In Table 1, District Rules 1080, 1081, and 4801 should be listed as Category 'D' and the corresponding county SIP rules should be listed as Category 'A'.

DISTRICT RESPONSE

Table I, Applicable Requirements, will be amended by:

a. Changing SJVUAPCD Rule 1080, 1081 from 'Category A' to 'Category D'

b. Removing SJVUAPCD Rule 4801 from the Table (it is not submitted for approval into the SIP)

c. Adding the county SIP rules corresponding to 1080, 1081, and 4801 as 'Category A'

EPA COMMENT

5. The District should add a statement to Category 'B' description stating that this list may not be exhaustive.

DISTRICT RESPONSE

The description of 'Category B' will be amended to state that the list of 'Category B' rules may not be exhaustive.

IV. Compliance (Engineering Evaluation)

Comments on the Streamlining of Sulfur Limits

EPA COMMENT

1. Upon written approval from EPA, the District may incorporate alternative monitoring for fuel sulfur content. We believe that the District does not currently have authority to approve a custom schedule.

DISTRICT RESPONSE

Section 40 CFR 60.334(b)(2) provides that the Administrator approve the use of modified monitoring schedule for fuel sulfur content. SJVUAPCD delegation authority for NSPS delegates the authority to be Administrator and does not deny the District authority to approve alternative monitoring. The District believes that the authority to approve alternative monitoring lies with the District.

However, while this issue is being resolved and in order to be able to issue this template in a manner that is timely for Title V, the District will submit a letter to the Director of Region IX Air and Toxics Division requesting approval of the alternative monitoring proposed for fuel sulfur in the template.

EPA COMMENT

2. EPA believes that it is more appropriate to require quarterly rather than annual testing for fuel sulfur content if eight consecutive weekly tests show compliance.

DISTRICT RESPONSE

The monitoring required for fuel sulfur content in Condition #8 of the proposed template will be modified to require quarterly fuel sulfur testing if eight consecutive weeks of testing show compliance with the fuel sulfur content limit. In addition the condition will be modified such that if a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance.

EPA COMMENT

3. The District should add a template permit condition for turbines that use non-PUC regulated natural gas to maintain copies of all fuel testing results.

DISTRICT RESPONSE

The requirement to maintain all copies of fuel test results is incorporated into the requirement to maintain records of all required monitoring and support information for 5 years.

EPA COMMENT

4. The proposed requirement for turbines that use non-PUC regulated natural gas must include the section 60.334(c)(2) requirement for reporting an exceedance of the fuel sulfur content requirement.

DISTRICT RESPONSE

A permit condition will be added to the final template stating that for turbines using non-PUC regulated natural gas, any instance the fuel being fired exceeds 0.8% sulfur by weight shall be reported to the District in accordance with 40 CFR 60.7(c).

EPA COMMENT

5. The District must include the methods specified in section 60.335(d) for fuel analysis in the table of requirements.

DISTRICT RESPONSE

In Step 1, Side-by-side Comparison, for sulfur limits, the proposed streamlined testing requirement will be changed from EPA Method 20 or 8 to ASTM method D- 1072-80, D 3031-81, D 4084-82, or D 3246-81, as required by condition in the template.

EPA COMMENT

6. On page 6, “exhaust” is misspelled.

DISTRICT RESPONSE

On page 6 of the final template the spelling of “exhaust” will be corrected.

EPA COMMENT

7. Under Step 1 of the streamlining exercise for NOx, the term “actual heat rate” should be defined.

DISTRICT RESPONSE

In Step 1, Side-by-side Comparison, for NOx limits, and in the corresponding template permit condition, the term “Actual Heat Rate” will be defined.

EPA COMMENT

8. Under Step 2 of the streamlining exercise for NOx, the term (9 X 25/EFF) should be corrected to (9 X EFF/25).

DISTRICT RESPONSE

In Step 2, Select Most Stringent Emission Limit, the term (9 X 25/EFF) will be corrected to (9 X EFF/25).

VI. Permit Conditions

EPA COMMENT

1. EPA recommends that the District require an initial test to demonstrate compliance with the 0.1 gr/dscf limit and require the results be reported to the District.

DISTRICT RESPONSE

To assure compliance with the 0.1 gr/dscf particulate matter (PM) emission limit, the turbines qualifying to use this template are limited to firing on PUC quality natural gas (see compliance discussion on the bottom of page 3 of the template). As per telephone conversations with Kathy Ferry of Radian International, Jim McCarthy of the Gas Research Institute, and Charlie Middleton of Pacific Gas and Electric, the only constituents which are found in non-regulated gas streams and which may contribute to the formation of PM upon combustion are sulfur and occasionally, trace amounts of metals. Any metals present in the gas stream are removed during the free water knock-out stage of processing. To assure compliance the fuel sulfur must be monitored. If the fuel sulfur exceeds the PUC quality limit, then the facility is in violation of the Title V permit. The EPA also expressed concerns about gases from coal gasification, landfills, and waste water treatment facilities. Gases from these sources have been eliminated in the template qualification form.

EPA COMMENT

2. Condition #3 on the proposed template should incorporate the exact wording from Rule 4703, "..excluding thermal stabilization periods or reduced load periods" and the definitions of thermal stabilization and reduced load period.

DISTRICT RESPONSE

Condition #3 will be modified to incorporate EPA's proposed wording.

EPA COMMENT

3. The District should include the recordkeeping and reporting requirements of 40 CFR 60.7(c) and 60.334(c)(2).

DISTRICT RESPONSE

As stated in the response to Comment IV.4, a permit condition is included in the facility-wide template stating that results of all required monitoring shall be reported to the District in accordance with 40 CFR 60.7(c). A template permit condition will be added for the exceedance of the sulfur limit in 60.334(c)(c2).

EPA COMMENT

4. Condition #9 should apply to both PUC quality or PUC regulated natural gas.

DISTRICT RESPONSE

Condition #9 on the proposed template will be modified to require that the LHV and HHV of natural gas, for PUC quality or PUC regulated, be determined using ASTM D3588-91, 1826-88, or 1945-81.

EPA COMMENT

5. The template qualification form (TQF) exempts units operating less than 877 hours annually; however Conditions #11 and #12 includes provisions for such units.

DISTRICT RESPONSE

The use of this template is restricted to units operating more than 877 hours annually. Therefore conditions #11 and #12 will be modified to remove the provisions for biennial testing if the unit operates less than 877 hours annually.

EPA COMMENT

6. Condition #16 should be modified to read "..for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit..".

DISTRICT RESPONSE

Condition #16 on the proposed template will be modified to read "..for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit..".

EPA COMMENT

7. The recordkeeping requirements of 40 CFR 60.7(b) should be added to Condition #18.

DISTRICT RESPONSE

The recordkeeping requirement from 40 CFR 60.7(b) will be added as a template permit condition, but the condition will only be effective until SJVUAPCD Rule 4703 compliance date. Because Rule 4703 does not have an allowance for malfunctions, it is more stringent than, and subsumes, NSPS requirements associated with tracking malfunctions.

EPA COMMENT

8. Condition #23 (keep records for 2 years) is unnecessary because Condition #20 requires records to be kept for 5 years.

DISTRICT RESPONSE

Condition #23 on the proposed template will be deleted.

EPA COMMENT

9. The permit shield conditions should cite the part of District rule that corresponds to 40 CFR 70.6(f).

DISTRICT RESPONSE

The conditions relating to permit shields will be followed by a citation of SJVUAPCD Rule 2520, 13.2.

EPA COMMENT

10. Correct the Typos in Condition #25.

DISTRICT RESPONSE

The referencing errors in Condition #25 on the proposed template will be corrected in the final: Madera Rule 404 will only be referenced once and Kern Rule 406 will be corrected to 407.

EPA COMMENT

11. Condition #25 should incorporate District Rule 1080, 7.3 within a permit shield for subsumed requirement.

DISTRICT RESPONSE

SJVUAPCD 1080, 7.3 will be added to Condition #23 on the proposed template.

EPA COMMENT

12. Condition #26 should state that the shield for Rule 1080 is only provided for the units covered by the template.

DISTRICT RESPONSE

The structure of the SJVUAPCD Title V permit will have subsections addressing each permitted source at a Title V facility. The structure of the permit will make it obvious that the template shield for 1080 only applies to the turbine qualifying to use the template. Condition #26 on the proposed template will be modified to provide a permit shield for only the specific sections of SJVUAPCD Rule 1080 addressed in the template.

EPA COMMENT

13. The SIP approved county rules subsumed by District Rules 1080, 1081, and 4801 should be listed with the subsumed requirements in Condition #25.

DISTRICT RESPONSE

The subsumed county SIP rules for SJVUAPCD Rule 1080, 1081, and 4801 will be listed in the permit shield in Condition #25 on the proposed template. These county SIP rules will also be cited after each template permit condition to which they pertain.

EPA COMMENT

14. List under the permit shield of Condition #26 the following: 40 CFR 60.332(c)and (d); 60.334(b) and (c)(2); and 60.335(d) for non-PUC regulated natural gas. List under the permit shield of Condition #25 the following: 60.333(a) and (b); 60.334(a), (b), and (c)(1).

DISTRICT RESPONSE

Conditions #25 and #26 on the proposed template will be modified to incorporate the suggested NSPS references.

EPA COMMENT

15. District should note in Condition #27 that the permit shield for District Rule 4703, 5.0 covers only the NOx requirements. Additionally the following changes should be made:

Change 5.1 to 5.1.1
Change 6.2.1 to 6.2.1.3
List 6.2.2 as subsumed under Condition #25
List 6.3.2 in addition to 6.3
Change 6.4 to 6.4.1, 6.4.3, 6.4.5, and 6.4.6.

DISTRICT RESPONSE

Condition #27 on the proposed template will be clarified to provide a permit shield for only SJVUAPCD Rule 4703 section 5.1.1, 6.2.1 (EPA's suggestion to list 6.2.1.3 is too narrow a citation - citing 6.2.1 includes all subsections thereof); 6.3 (again this citation includes all subsections thereof); 6.4.1, 6.4.3, 6.4.5, and 6.4.6. The permit shield for section 6.2.2 of the rule will be moved and listed with other permit shielded subsumed requirements.

EPA COMMENT

16. Requirements from 40CFR60, Subpart GG that will be subsumed after District Rule 4703 compliance date do not have to be listed twice in the permit shield section of the template.

DISTRICT RESPONSE

The clarifications for the permit shield conditions will be made in the final template.

EPA COMMENT

17. Continuous monitoring for NO_x and O_2 should be required in template permit condition #29.

DISTRICT RESPONSE

Condition #29 on the proposed template will be modified to state that both NO_x and O_2 must be continuously monitored.

EPA COMMENT

18. NO_x monitoring system should meet the requirements of 40CFR60 Appendix F in addition to the other parts listed.

DISTRICT RESPONSE

Condition #30 on the proposed template will be modified to reference Appendix F of 40 CFR 60 Appendix F in addition to Appendix B and 40 CFR 51 Appendix P.

EPA COMMENT

19. Template should include prompt reporting for deviations for the fuel sulfur content limits and PM emission limits.

DISTRICT RESPONSE

As stated in the response to Comment IV.4, a permit condition is included in the facility-wide template referencing 40 CFR 60.7(c) for the prompt reporting of deviations and a template permit condition will be added for any exceedance from fuel sulfur limits. As stated in the response to VI.1, compliance with the fuel sulfur limit assures compliance with the PM limit.

EPA COMMENT

20. In condition #32 the requirement should be in the active voice rather than the passive voice.

DISTRICT RESPONSE

Condition #32 will be modified to the active rather than the passive voice.

EPA COMMENT

21. The reports required by template condition #33 must be certified by a responsible official.

DISTRICT RESPONSE

That all required reports must be certified by a responsible official is required by a facility-wide condition on the Title V permit.

EPA COMMENT

22. Template must contain a condition that requires the reporting of any exceedance of the fuel sulfur limit.

DISTRICT RESPONSE

A condition will be added that requires the reporting of any exceedance of the fuel sulfur limit.

EPA COMMENT

23. District Rule 4703 has CO limits that are not currently federally enforceable. These CO requirements are not used to streamline any other requirements. Therefore, the CO requirement of District Rule 4703 should not be included in the "district-only" portion of the permit template.

DISTRICT RESPONSE

Table I. Applicable Requirements, will be changed to clarify that the CO requirement from SJVUAPCD Rule 4703 is a non-federally enforceable requirement until 4703 is approved into the SIP.

EPA COMMENT

24. Condition should be added regarding permit renewal at least every 5 years.

DISTRICT RESPONSE

The Federal Register notice of April 24, 1996 announcing interim approval of the SJVUAPCD Rule 2520 states "Permits issued under a program with interim approval have full standing with respect to Part 70...". The requirement to reissue the general permit template every 5 years is not part of Rule 2520. Such a requirement is not currently federally applicable.

EPA COMMENT

25. Condition should be added stating that if a source is operating under a general permit or general permit template, and is later determined not to qualify for the template, only the portion of the facility covered by the template shall be subject to enforcement action for operation without a permit.

DISTRICT RESPONSE

The Federal Register notice of April 24, 1996 announcing interim approval of the SJVUAPCD Rule 2520 states "Permits issued under a program with interim approval have full standing with respect to Part 70...". The interim approval issue stated in this comment is not currently part of Rule 2520. Such a requirement is not currently federally applicable.

Template Qualification Form

EPA COMMENT

1. Template qualification form serves as a compliance certification form for the applicable requirements. Compliance certification should reflect applicable requirements that have future-effective dates.

DISTRICT RESPONSE

The template will be submitted as part of a complete Title V application. The Title V application contains a Compliance Certification Form (TVFORM-005 in the SJVUAPCD Title V Permit Application Package). On the Compliance Certification Form the responsible official certifies to the truth, accuracy, and completeness of the Title V application, including all supporting information.

EPA COMMENT

2. The date on Line 10 of the template appears to be a typo.

DISTRICT RESPONSE

The date on Line 10 of the template will be corrected from "10/3/97" to "10/3/77".

EPA COMMENT

3. Template qualification form should provide information on the origin and authority of the qualification terms.

DISTRICT RESPONSE

Addition of the origin and authority of the qualification form terms may be added in to future templates.

Additional Comments

EPA COMMENT

1. Template does not specify a method in which water-to-fuel ratio is to be correlated to NOx concentrations. EPA suggests method used in 40 CFR 60.335(c). Template should also include a requirement that the source submit to the APCO the information correlating the control system operating parameters to the associated NOx output. NSPS requirement for monitoring fuel nitrogen content should be discussed in the streamlining demonstration.

DISTRICT RESPONSE

Water-to fuel ratio will be correlated to NOx concentrations using the method in 40 CFR 60.335(c). The template contains a permit condition requiring the source to submit information correlating the control system operating parameters to the associated NOx output. NSPS requirement for monitoring fuel nitrogen content will be discussed in the streamlining demonstration.

EPA COMMENT

2. A time period for reporting deviations measured by the continuous monitoring system consistent with SJVUAPCD's definition of "prompt," should be included in template permit condition #29.

DISTRICT RESPONSE

Reporting of deviations is covered by the facility-wide template.

EPA COMMENT

3. The word "commence" should be added after the word "construction" in the eleventh condition on the template qualification form.

DISTRICT RESPONSE

The word "commence" will be added after the word "construction."

EPA COMMENT

4. Applicable Requirements, Page 2, Table 1.40 CFR 72 should be listed as "Title IV" or "Federal Acid Rain Rule" rather than as a NESHAP.

DISTRICT RESPONSE

Table 1. Applicable Requirements will be listed as "Title IV."

EPA COMMENT

5. Condition #3, the "2" for footnote 2 should be moved away from the equation.

DISTRICT RESPONSE

The "2" will be removed from the equation.

EPA COMMENT

6. Line 4 of the template qualification form should be clarified as follows “Does the unit have a heat input rate of at least 10 MMBtu/hr and either 1) a rating of less than 10 MW or 2) a rating greater than 10 MW, but operated less than 4000 hours average...”

DISTRICT RESPONSE

Line 4 of the template qualification form will be clarified to read as follows “Does the unit have a heat input rate of at least 10 MMBtu/hr and either 1) a rating of less than 10 MW or 2) a rating greater than 10 MW, but operated less than 4000 hours average...”

APPENDIX B

PUBLIC COMMENTS / DISTRICT RESPONSE

PUBLIC COMMENTS / DISTRICT RESPONSE

Public comments regarding this template were submitted by Chevron. A copy of the 8/9/96 Chevron letter containing these comments is available at the District.

PUBLIC COMMENT
Change fuel sulfur testing to 3 consecutive weeks instead of 8 consecutive weeks.

DISTRICT RESPONSE
The sulfur testing of fuel will remain at 8 consecutive weeks because this has been established as the procedure to be used by the District for fuel testing.

PUBLIC COMMENT
Tracking of efficiency (EFF) in condition #10 is not required for units less than 10 MW.

DISTRICT RESPONSE
Condition #10 will be changed to only require efficiency testing for units with a rating of 10MW and greater.

PUBLIC COMMENT
40CFR 60.334 does not specifically require a predictive emissions monitoring system that correlates water to fuel ratio to NOx emissions.

DISTRICT RESPONSE
According to “White Paper #2”, the monitoring requirement of the more stringent emission limit must be used to show compliance with the limit. Therefore, the monitoring requirement of condition #19 is required to show compliance.

PUBLIC COMMENT
Condition #21 should be deleted because 40 CFR 60.334 does not require a predictive emission monitoring system.

DISTRICT RESPONSE
The predictive emission monitoring system is required to support the more stringent NOx emission limit.
meet the template permit conditions set by the template.

APPENDIX C

COUNTY RULE / DISTRICT RULE 1081 COMPARISON

APPENDIX C

Rule 1081 (Source Sampling)

REQUIREMENTS	1081 SJVUAPCD	108 KINGS	110 MADERA	108.1 FRESNO	108.1 MERCED	108.1 S.J.	108.1 TULARE	108.1 KERN	108.1 STANI SLAUS
Upon request of the APCO, the source shall provide info. and records to enable the APCO to determine when a representative sample can be taken.			X	X	X	X	X	X	X
The facility shall collect, have collected or allow the APCO to collect, a source sample	X	X	X	X	X	X	X	X	X
The source shall have District personnel present at a source test	X								
The applicable test method, if not specified in the rule, shall be conducted in accordance with 40 CFR 60, Appendix A	X								
Test procedures: 1) arithmetic mean of three runs 2) a scheduled source test may not be discontinued solely due to the failure to meet the applicable standard(s), and 3) arithmetic mean of two runs is acceptable if circumstances beyond owner or operator control occurs.	X								

APPENDIX D

PUC GAS SULFUR CONTENT STANDARDS

GENERAL ORDER 58-B
(Supplemental to General Order 58-A)

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

HEATING VALUE MEASUREMENT STANDARD FOR GASEOUS FUELS

Approved October 17, 1984. Effective November 16, 1984.
(Decision 84-10-052, CII 83-11-01)

Original Order Approved December 28, 1955--Effective January 17, 1956

It is ORDERED that the following rules be adopted effective November 16, 1984 to govern all gas corporations as defined in the Public Utilities Code,* in the determination of heating values of fuel gases. The order also is supplemental to General Order 58-A, which requires utilities to provide and maintain heating value measurement stations and shall not relieve any gas corporation from complying with the provisions of general Order 58-A.

7. Purity of Gas

a. **Hydrogen Sulfide**

No gas supplied by any gas utility for domestic, commercial or industrial purposes in this state shall contain more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet.

B. **Total Sulfur**

No gas supplied by any gas utility for domestic, commercial or industrial purposes shall contain more that five (5) grains of total sulfur per one hundred (100) standard cubic feet.

C. Test procedures used to determine the amounts of hydrogen sulfide and total sulfur shall be in accordance with accepted gas industry standards and practices.

D. When hydrogen sulfide, or total sulfur, exceeds the limits set forth in Section 7.a. and Section 7.b., the gas utility shall notify the Commission and commence remedial action immediately. The Commission shall be notified when the level of hydrogen sulfide, or total sulfur, has been reduced to allowable limits.

APPENDIX E

SOURCE TEST RESULTS (PM)

TABLE 1. SOURCE TEST RESULTS (PM)

Facility	Turbine Rating	Source Test Results (gr/scf)
Dynamis Turbine	30.0 MW	0.0018
Kingsburg Cogen	34.0 MW	0.0014
San Joaquin Cogen	48.6 MW	0.0006

APPENDIX F

TEMPLATE QUALIFICATION FORM
FOR
TEMPLATE # SJV-GT-7-0

Title V General Permit Template Qualification Form

District Permit #_____

Please answer the questions in the table below. A gas turbine (unit) which meets the criteria of this table is qualified to use this template as part of a Title V application. To use this template, remove this sheet and attach to application.

Yes	No	Description of Qualifying Units
		Is the unit fired exclusively on PUC quality gas - natural gas with ≤ 0.017% sulfur by weight? If "yes", continue to the next question; otherwise STOP - you cannot use this template.
		Does the unit fire on gas from coal gasification, landfills, or a waste water treatment facility? If "no", continue to next question; otherwise STOP - you cannot use this template.
		Does the unit have a continuous emission monitoring system (CEMS) for NOx? If "no", continue to next question; otherwise STOP - you cannot use this template.
		To comply with the emissions limits of District Rule 4703, are NOx emissions from this unit controlled by water or steam injection (not Selective Catalytic Reduction (SCR))? If "yes", continue to next question, otherwise STOP - you cannot use this template.
		Does the unit have a heat input rate of at least 10 MMBtu/hr and demonstrated to operate 877 hours per year or more? If "yes", continue to the next question; otherwise STOP - you cannot use this template
		Does the unit have a rating greater than or equal to 10 MW, and operated an average of over 4000 hours per year over the last 3 years? If "no", continue to next question; otherwise STOP - you cannot use this template.
		Is the unit a General Electric Frame 7 with Quiet Combustors? If "no" continue to next question; otherwise STOP - you cannot use this template.
		Is the unit operated exclusively for fire fighting and flood control? If "no", continue to next question; otherwise STOP - you cannot use this template.
		Is the unit a laboratory unit used in research and testing for the advancement of gas turbine technology? If "no", continue to next question; otherwise STOP - you cannot use this template.
		Is the unit an emergency unit which operates as a mechanical or electrical power source only when the primary power source for a facility has been rendered inoperable by an emergency situation? If "no", continue to next question; otherwise STOP - you cannot use this template.
		Did construction, modification, or reconstruction of the unit commence after 10/3/77(Subpart GG)? If "yes", continue to next question; otherwise STOP - you cannot use this template.
		If the unit has a heat input at peak load ≤ 100 MMBtu/hr, did construction commence prior to 10/3/82? If "no", continue to next question; otherwise STOP - you cannot use this template.
		If the unit is not an electric utility gas turbine (i.e. constructed for the purpose of supplying >1/3 of its power output capacity to any utility) and has a heat input at peak load greater than 100 MMBtu/hr, did construction, modification, or reconstruction of the unit commence between 10/3/77 and 1/27/82? If "no", continue to next question; otherwise STOP - you cannot use this template.
		Is the unit part of a stationary source where a new unit was operated for the first time on or after 1/30/96 and if so, is the generating capacity of the unit ≥ 25 MW? If "no", the unit has qualified to use this template; otherwise STOP - you may be an Acid Rain source, subject to Title IV of the CAA, and cannot use this template.

Based on information and belief formed after reasonable inquiry 1) the information on this form is true and correct and 2) the facility certifies compliance with this template's permit conditions:

_____ _____

Signature of Responsible Official Date

_____

Name of Responsible Official (Please print)